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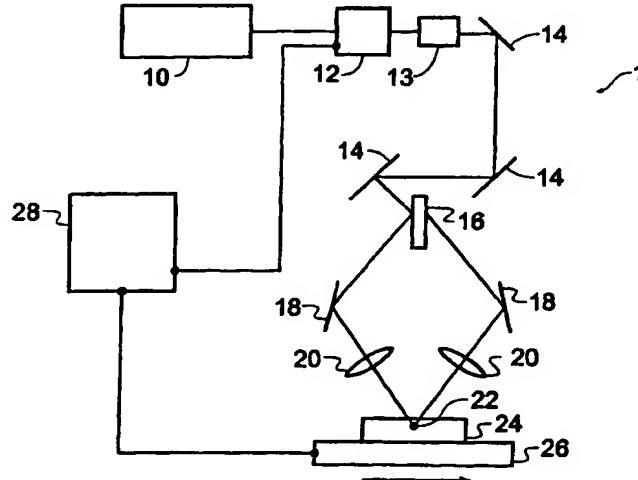
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(54) Title: FABRICATION OF WAVEGUIDES AND BRAGG GRATINGS WITH UV-IRRADIATION



(57) Abstract: A method of simultaneously defining a waveguide and grating in a sample of photosensitive material comprises providing a sample of material (24) having a region which is photosensitive to light of a specific wavelength, generating a spot of light (22) at the specific wavelength, the spot having a periodic intensity pattern of high and low intensity fringes, and a width which is related to the width of the channel, positioning the spot within the photosensitive region and causing relative movement between the sample and the light spot along the desired path of the waveguide/grating define a channel of altered refractive index by exposing parts of the photosensitive region to the light spot. Modulation of the light spot to produce multiple exposures produces a grating, while continuous exposure results in a uniform waveguide. These structures can be written in straight lines or around curves, and can be accurately overwritten, so that complex optical devices can be produced in a single fabrication step.